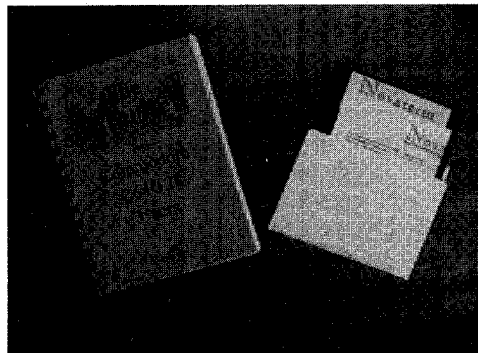


# LOADSTAR LETTER

64

# #45



## Gaelyne Gasson's Book Hits The States

By Jeff Jones. Every month ten or so people ask me "How do I get on the Internet?" This is actually about 100 questions. Thank God for Gaelyne. Her book simply *needed* to be written, mainly because now I can point those people with hundreds of questions to an authoritative book with hundreds of answers.

I use three different kinds of computers. For my PC, the Internet is already set up to an almost intrusive extent because Microsoft wants me to join MSN. For my Amiga and C-64, it's a struggle to get online outside of helpful text-friendly services like Genie and Delphi. They're there for us, but don't have the gumption or the money to bundle software with our C-64 software and hardware like Quantum Computer Services used to. Remember when Qlink disks were like roaches?

Commodore enthusiasts need an authoritative source of information and this is it. Since we Commodore people deal with

the Internet at a shell level, we have to be smarter about web-hopping than the average person on the Internet. The Internet for Commodore C64/128 Users comes with everything you need to get online except a modem. It comes packaged with NovaTerm Lite, software that will help you get online — and perhaps entice you to purchase the full blown NovaTerm.

ISBN: 0-646-31615-X \$36.95

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Orders can be accepted through postal mail, E-mail, or from the World Wide Web at <http://hal9000.net.au/~moranec/bookord.html>. Phone orders will also be accepted.

The prices above are for single copy orders and subject to change. Please contact VideoCam Services for bulk pricing.

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Australia  
+61 8 8322-2716

[gaelyne@hal9000.net.au](mailto:gaelyne@hal9000.net.au)

## CHMAG BBS Says Goodbye

By Ray Madison. CHMAG BBS, Philadelphia, PA shut down permanently effective 4-20-97. This action was due to virtually non-existent activity, and the

sysop's increasing time & interest in the Internet.

"It's was fun while it lasted, and I'd like to thank everybody for the support, but it's time to move on." The sysop can be reached on the Internet at:

70661.2471@CompuServe.com  
madisonr@allegheny.edu  
madison@delphi.com  
or SeekNet address SN224 or on Fidonet.  
-Ray Madison  
(Black Saber)

## Novaterm Internet Mailing List Started

By Nick Rossi. Nick Rossi has created an Internet mailing list for NovaTerm. He plans to use this as a way to inform people about patches and other developments. Feel free to use it for discussion as well!

To subscribe to this list, send e-mail to "novaterm-list-request@eskimo.com", with the word "subscribe" in the subject line. To unsubscribe -- you guessed it -- same e-mail address with the word "unsubscribe" in the subject.

Nick Rossi:  
<http://www.eskimo.com/~voyager/>  
The Exit Light Show:  
<http://www.eskimo.com/~voyager/exittight/> NovaTerm:  
<http://www.eskimo.com/~voyager/novaterm/>  
Freedom writings:  
<http://www.eskimo.com/~voyager/freedom/>

## Printing NovaTerm's Buffer

By Jeff Jones. Last month LOADSTAR got a few calls from people who were able to fill NovaTerm's buffer, save it, etc, but they were *unable* to *print* it. Nick Rossi's NovaTerm Mail list came in handy for answers to this problem:

**From save:** Go to the buffer menu, choose "Load Buffer." It will ask you for a filename. Enter the filename you have chosen. After the buffer is loaded, Choose "Print Buffer," and it will again ask for a file name, enter it, hit RETURN, and the buffer will be printed on paper.

**From Capture:** First close the capture file by holding down Commodore (C=) key and hitting "O," otherwise, the filename will not appear in the buffer directory. Then hold down C=

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J & F Publishing P.O. Box 30008, Shreveport,  
LA 71130-0008, Phone: 318/221-8718,  
Fax: 318/221-8870, BBS: 318/425-4382

key and press "Z" to return to the main menu. Cursor to buffer operations menu, hit return. You will be presented with the buffer menu. Choose Print buffer, and you will be prompted for a file name. Enter file name, hit RETURN, and the buffer will be dumped to the printer.

This method works for me with all versions of NovaTerm I've used.

Raymond A. Madison, Sr.  
(Black Saber)

For what it's worth, I have never had any trouble in printing the buffer. Just following the listed options seems to work quite well. Accuracy in naming in the file may be the answer. Good luck. Tom

**Solution #2:** First, I set the buffer menu to save the buffer automatically when it is full. Then, after I have saved a text file, I use a program called "Ultra seq. print" to print the file directly from disk. The NovaTerm buffer isn't big enough to hold a large text file, and when you try to load a text file into it for printing, it will only print as much as the buffer will hold. I haven't found any way to get it to print any more of a text file than the buffer will hold. But I've found Ultra seq print does a nice job at printing a large sequential file.

...wjdavis@InfoAve.Net

## Brain Innovations, Inc. Details New Internet Site for Commodore Computers

Bennington, NE (May 7, 1997)-- Brain Innovations, Inc. (BII) announced today details on their new Internet Site devoted to Commodore information and resources. BII notes that this site will pull together the many resources BII provides to the Commodore community into one location, as well as provide resource not previously offered by BII.

The new site, will offer the full complement of existing BII services, as well as new services not previously available. All services will concentrate on providing help and information for the Commodore 8-bit enthusiast by using the most sophisticated tools available on the Internet.

World Wide Web Services: BII will discontinue its www.msen.com WWW presence and replace it with services available on www.jbrain.com, the new WWW site. Some services are already operating, including:

- The comp.sys.cbm Frequently Asked Questions List (FAQ)

- <http://www.jbrain.com/faq/>
- [cbmfaq-info@mail.jbrain.com](mailto:cbmfaq-info@mail.jbrain.com) (CBM FAQ Information)
- [cbmfaq-admin@mail.jbrain.com](mailto:cbmfaq-admin@mail.jbrain.com) (CBM FAQ Administrator)
- [cbmfaq-comments@mail.jbrain.com](mailto:cbmfaq-comments@mail.jbrain.com) (General Comments on CBM FAQ)
- [cbmfaq-errors@mail.jbrain.com](mailto:cbmfaq-errors@mail.jbrain.com) (Error Reports)
- [cbmfaq-request@mail.jbrain.com](mailto:cbmfaq-request@mail.jbrain.com) (Request a copy of the CBM FAQ)\*

Regarded as a valuable resource for Commodore owners and users, the comp.sys.cbm FAQ provides answers to many questions that are asked often in comp.sys.cbm. Although provided as a USENET FAQ, the comp.sys.cbm is used by more than simply USENET readers. Grab a copy today and learn more about your Commodore.

- CaBooM! - Your One Stop Commodore Links Site
- <http://www.jbrain.com/caboom/> (URL)
- [caboom-info@mail.jbrain.com](mailto:caboom-info@mail.jbrain.com) (Information on CaBooM!)
- [caboom-admin@mail.jbrain.com](mailto:caboom-admin@mail.jbrain.com) (CaBooM! Administrator)
- [caboom-errors@mail.jbrain.com](mailto:caboom-errors@mail.jbrain.com) (Error Reports)
- [caboom-comments@mail.jbrain.com](mailto:caboom-comments@mail.jbrain.com) (General Comments on CaBooM!)
- [caboom-ad-info@mail.jbrain.com](mailto:caboom-ad-info@mail.jbrain.com) (Information on Ad Placement)
- [caboom-submit@mail.jbrain.com](mailto:caboom-submit@mail.jbrain.com) (Submit entry via E-mail Form)\*

Providing links to the majority of resources available on the Internet, CaBooM! provides access to information on the Internet in a categorized format. The system also provides a search capability to quickly scan the over 400 sites listed in CaBooM! In addition, online forms allow new entries to be added via the Web in a matter of minutes. The system also offers advertising space to Commodore content companies and businesses.

- C= And Swap - The Commodore Classifieds:
- <http://www.jbrain.com/cswap/> (URL)
- [cswap-info@mail.jbrain.com](mailto:cswap-info@mail.jbrain.com) (Information on C= And Swap)
- [cswap-admin@mail.jbrain.com](mailto:cswap-admin@mail.jbrain.com) (C= And Swap Administrator)
- [cswap-comments@mail.jbrain.com](mailto:cswap-comments@mail.jbrain.com) (General Comments on C= And Swap)
- [cswap-new-cat@mail.jbrain.com](mailto:cswap-new-cat@mail.jbrain.com) (Request a New Category)

- [cswap-errors@mail.jbrain.com](mailto:cswap-errors@mail.jbrain.com) (Error Reports)
- [cswap-submit@mail.jbrain.com](mailto:cswap-submit@mail.jbrain.com) (Submit ad via E-mail Form)\*

The virtual equivalent of the classified ads, C= And Swap offers much better service at absolutely no cost. Buyers can quickly hone in on selected products via the category listing, check the range of prices on a particular item, and post a want ad. Sellers can offer multiple items for sale and determine the market value of items. Daily postings of newly added or updated sales ads are automatically posted to the USENET newsgroup comp.sys.cbm, and possible want ad matches are mailed to each want ad poster. Both buyers and sellers can update and delete ads at any time.

- Commodore Trivia:
- <http://www.jbrain.com/trivia/> (URL)
- [trivia-info@mail.jbrain.com](mailto:trivia-info@mail.jbrain.com) (Trivia Information)
- [trivia-admin@mail.jbrain.com](mailto:trivia-admin@mail.jbrain.com) (Trivia Administrator)
- [trivia-comments@mail.jbrain.com](mailto:trivia-comments@mail.jbrain.com) (General Comments on Trivia)
- [trivia-contest@mail.jbrain.com](mailto:trivia-contest@mail.jbrain.com) (Answer Current Edition)
- [trivia-submit@mail.jbrain.com](mailto:trivia-submit@mail.jbrain.com) (Submit Question for Trivia)

For those who have enjoyed the monthly postings of Commodore Trivia or read the monthly installments in Commodore World, you can view each edition and its answers on the WWW via this site. Planned additions for this service include the ability to create random sets of trivia from the lists, score players, and offer anecdotal information on trivia answers.

- Commodore Hacking
- <http://www.jbrain.com/chacking/> (URL)
- [chacking-info@mail.jbrain.com](mailto:chacking-info@mail.jbrain.com) (C=Hacking Information)
- [chacking-admin@mail.jbrain.com](mailto:chacking-admin@mail.jbrain.com) (C=Hacking Administrator)
- [chacking-submit@mail.jbrain.com](mailto:chacking-submit@mail.jbrain.com) (Submit an Article)
- [editor@mail.jbrain.com](mailto:editor@mail.jbrain.com) (Letters to the Editor)
- [chacking-comments@mail.jbrain.com](mailto:chacking-comments@mail.jbrain.com) (Alias to editor)

Commodore Hacking, The Commodore Programmer's Journal, demands a site worthy of its content. Now it has one. BII has been holding off on producing the latest issue of Commodore Hacking until the new site could be completed, and the work is almost done. Commodore hacking #15 will make its newsstand debut on its new site, which includes some issues in HTML, submission guidelines, and information on the magazine. Planned upgrades include an automated submission system and conversion of all remaining issues to HTML.

- The Virtual Internet Commodore User's Group (VICUG)
- <http://www.jbrain.com/vicug/> (URL)
- [vicug-info@mail.jbrain.com](mailto:vicug-info@mail.jbrain.com) (VICUG Information)
- [vicug-admin@mail.jbrain.com](mailto:vicug-admin@mail.jbrain.com) (VICUG Administrator)
- [vicug-comments@mail.jbrain.com](mailto:vicug-comments@mail.jbrain.com) (General Comment on VICUG)
- [vicug-errors@mail.jbrain.com](mailto:vicug-errors@mail.jbrain.com) (Error Reports)
- [bonehead@mail.jbrain.com](mailto:bonehead@mail.jbrain.com) (Submit Bonehead for HOS)

For those who have never surfed the Web, or for those weary of surfing all over and not finding information they need, VICUG comes to the rescue. VICUG helps both new and experienced users find the information they need without the hype by letting them visit a virtual user group meeting, complete with file library, special interest groups, and meeting information. Still under development, VICUG is now open for limited use.

**Additional Planned WWW Services:** Contrary to popular belief, new things are happening in the Commodore Market, and **CBMPress** will help everyone know about it. CBMPress will create Press Releases for companies and archive them at [www.jbrain.com](http://www.jbrain.com) for later perusal. Text and HTML copies will be mailed to the company as well as all users subscribed to the service. Newsletter, magazine, and disk magazine editors will appreciate the up-to-date and meaningful information these press releases will provide. Availability: June/July 1997

**C= Your News:** As a newsletter editor, one common problem is finding worthy articles to print. C= your News will alleviate this problem by providing a rich archive of articles from various newsletters from everywhere on the Internet. By submitting just one quality

article each month to the service, C= Your News users will automatically receive the best articles from all participating users. In addition, articles are archived for later use in theme issues, special compilations, and other resources. There is no usage limit. Users who do not submit articles will still have the ability to peruse all but the past month's worth of archives for newsletter material. This service is based on suggestions by Dale Sidebottom, and Dale will be selecting the best articles for distribution. Availability: May/June 1997

#### FTP Services:

The North American CBM Archive

<ftp://ftp.jbrain.com/pub/cbm/> (URL)  
[ftp-comments@mail.jbrain.com](mailto:ftp-comments@mail.jbrain.com) (General Comments on FTP Site)

BII has taken over the North American CBM Archive, previously held at [ccnga.uwaterloo.ca](http://ccnga.uwaterloo.ca). Available at [ftp.jbrain.com/pub/cbm/](ftp://ftp.jbrain.com/pub/cbm/), the archive holds most files previously held at ccnga. Some files are awaiting validation. In the next few months, BII will be generating Internet Anonymous FTP Archive (IAFA) listings for all resources available on [ftp.jbrain.com](ftp://ftp.jbrain.com). All new uploads to [ftp.jbrain.com](ftp://ftp.jbrain.com) will be required to complete an IAFA form for successful archiving. BII understands that similar projects may be underway to classify Commodore files, and will work with these individuals create a superset classification system that obeys IAFA rules.

- The BII FTPMAIL Service
- [ftpmail@mail.jbrain.com](mailto:ftpmail@mail.jbrain.com) (FTPmail Service)
- [ftpmail-info@mail.jbrain.com](mailto:ftpmail-info@mail.jbrain.com) (Info on FTPmail)
- [ftpmail-admin@mail.jbrain.com](mailto:ftpmail-admin@mail.jbrain.com) (FTPmail Administrator)
- [ftpmail-errors@mail.jbrain.com](mailto:ftpmail-errors@mail.jbrain.com) (Error Reports)

BII has announced the availability of a FTPmail server at [mail.jbrain.com](mailto:mail.jbrain.com) to allow file requests by those without FTP access.

This services the file portion of "Jim Brain's MAILSERV server" and allows access to not only files on [ftp.jbrain.com](ftp://ftp.jbrain.com), but any ftp site on the Internet.

**USENET Services:** The BII USENET-mail Distribution Service  
[listserv@mail.jbrain.com](mailto:listserv@mail.jbrain.com) (Subscribe to List)  
 (See BII ListServ for list names)

As part of its listserv lists, BII offers daily digests of the three main CBM USENET newsgroups (comp.sys.cbm, comp.emulators.cbm, comp.binaries.cbm) via email. This service supercedes a similar service offered by "Jim Brain's MAILSERV server." All current subscribers have been

retained. BII asks that only those who have no other access to USENET utilize this service.

#### Electronic Mail Services: The BII ListServ

- [listserv-info@mail.jbrain.com](mailto:listserv-info@mail.jbrain.com) (Information on ListServ)
- [listserv@mail.jbrain.com](mailto:listserv@mail.jbrain.com) (Subscribe to List)
- [listserv-admin@mail.jbrain.com](mailto:listserv-admin@mail.jbrain.com) (ListServ Administrator)
- [listserv-errors@mail.jbrain.com](mailto:listserv-errors@mail.jbrain.com) (Error Reports)

To provide information to Commodore enthusiasts via e-mail, BII has installed a ListServ processor to automate the creation and maintenance of Internet mailing lists. At present, only distribution lists are provided, but lists may be created for each services available at [jbrain.com](http://jbrain.com) if interest warrants.

#### Present Lists:

- **chacking-dist** Distribution of C=Hacking via text file
- **chackzip-dist** Distribution of C=Hacking via ZIP file
- **trivia-dist** Distribution of Commodore Trivia
- **cbmfaq-dist** Distribution of comp.sys.cbm FAQ
- **model-dist** Distribution of CBM model list
- **news-csc-dist** Distribution of Newsgroup comp.sys.cbm
- **news-cbc-dist** Distribution of Newsgroup comp.binaries.cbm
- **news-cec-dist** Distribution of Newsgroup comp.emulators.cbm

BII notes that many of these services were created in response to suggestions made by Commodore enthusiasts. BII encourages users to offer suggestions for more services to offer on [jbrain.com](http://jbrain.com).

**About the Server:** Brain Innovations, Inc is currently operating off a commercial WWW server administered by Alabanza.com. The system runs on Linux 2.0.27 and uses the Apache WWW server. The [jbrain.com](http://jbrain.com) site is developed using an mSQL database server and the PHP HTML scripting system to automate forms and dynamic HTML pages.

\* These Services are not yet automated. They will be available in the near future.

[bii@mail.jbrain.com](mailto:bii@mail.jbrain.com)  
<http://www.jbrain.com>  
 Contact:  
 Jim Brain, President  
 Brain Innovations, Inc.  
 10710 Bruhn Avenue  
 Bennington, NE 68007  
 (402) 431-7754  
[bii@mail.jbrain.com](mailto:bii@mail.jbrain.com)

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INCLUDES CLIP CAT FOR VIEWING/PRINTING CLIP ART

FGM CLIP ART VOL.4 YEAR-ROUND HOLIDAYS + PRINTOUT-\$10.00

FGM CLIP ART VOL.5 HAROLD MYGIND'S COLLECTION---\$5.00

FGM UPDATE DISK V6.5 UPDATES FGM V6.x TO FGM V6.5--\$2.00

PLEASE ADD FOR SHIPPING AND HANDLING PER ORDER ----\$3.50

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U.S. FUNDS ONLY. SORRY NO CHARGE CARDS

The FGM Connection. P.O. Box 2206, Roseburg, OR. 97470  
FOR MORE INFORMATION CALL 541-496-2234

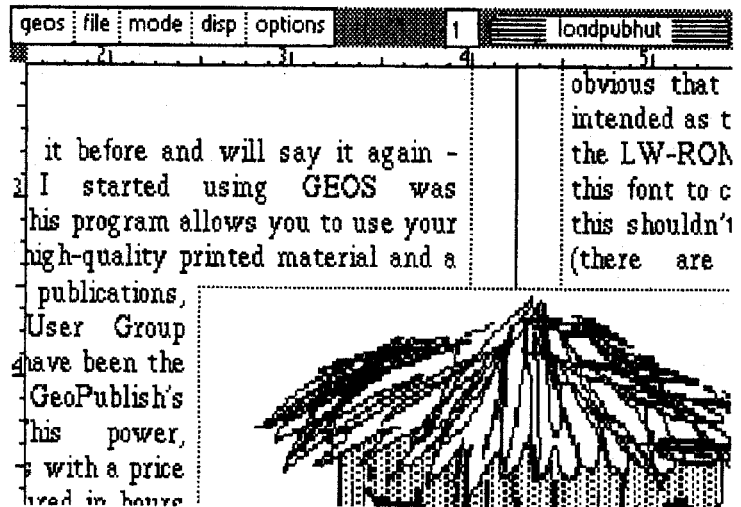


FIGURE 1 - PUB TUTORIAL WITHOUT GUTTERS

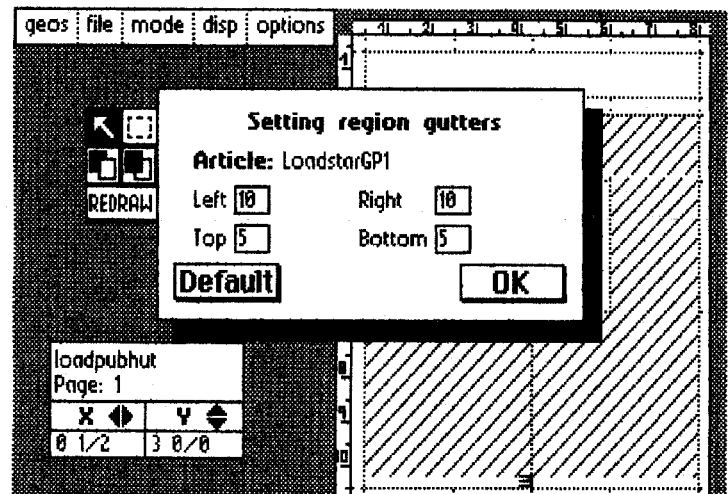


FIGURE 2 - PUB GUTTERS DIALOG BOX

## Improving GeoPublish (Part One)

By Bruce Thomas. I have said it before and will say it again - the reason I started using GEOS was GeoPublish. This program allows you to use your C-64 to publish high-quality printed material. A number of publications, plus many user group newsletters, have been the recipients of GeoPublish's power. This power, however, comes with a price which is measured in hours learning the program.

The GeoPublish manual is generally good reading and, with it, you can learn most of what you need to know to use GeoPublish. Still, Berkeley Softworks found it necessary to publish a User Manual Addendum which identifies inaccuracies in the original. If you haven't seen this addendum, which came with the 2-disk 'Publish upgrade, you are missing out on more good info.

The first place to start when learning GeoPublish is the tutorial in the manual. This tutorial will take you through the creation of a Newsletter and, in the process, you will get practice at importing text files and graphic images. The tutorial

does leave a few things out though, and there are better ways to accomplish some others. That is why you need to

turn to publications like the LOADSTAR Letter for hints, tips and a thorough once over like Scott presented in his recent GeoPublish series. I have been using GeoPublish for nine years and in this two-part article I will try to correct a few of the tutorial omissions and pass on a number of tips on ways to get more out of GeoPublish.

Taking a look at the tutorial it becomes obvious that your newsletter won't come out as intended as the manual forgets to tell you to copy the LW-ROMA font to your work disk. You need this font to create the Jelly Roll as described but this shouldn't be your first choice. The eleven LW fonts provide unparalleled output on a Postscript Laser but are less favorable

on a Dot-Matrix. To get a better looking Dot-matrix Jelly Roll, copy the regular Roma font to your work disk along with the Mega-Roma font for the headline.

The next problem arises when you try to create your Master Page layout. The tutorial says to place the vertical guidelines at 4 1/2" & 4 3/4" but the closest you can get them is 1/2" apart (Figure 1). The Addendum changes these settings to 4 1/2" and 5" but I disagree with this. This is one thing I could never figure out about the way the tutorial is done, or about the layout Libraries that come with GeoPublish for that matter.

A great feature of GeoPublish is the gutters that you can set up in your text regions. A gutter is a margin inside a text region that can be up to 1 inch wide (they are discussed on Page 4-54 of the manual).

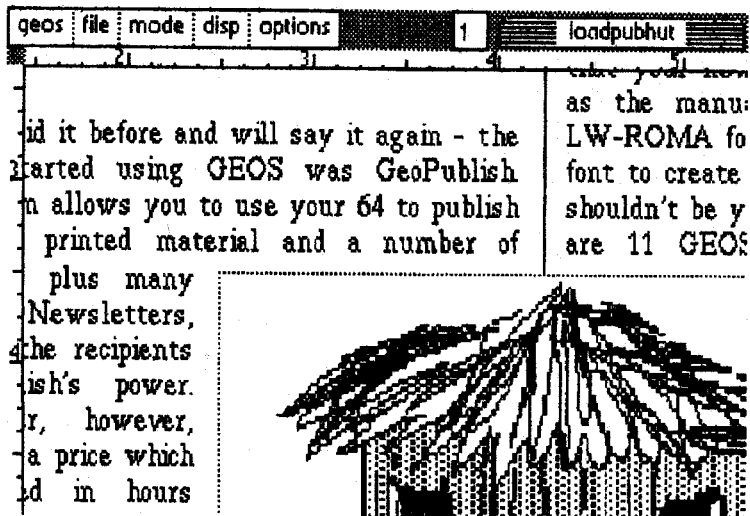


FIGURE 3 - PUB TUTORIAL WITH GUTTERS

With the ability to set a margin within your text regions I see no reason to create the regions with separate guidelines. Even the library layouts have separated text regions and none of them use anything but the default gutters (the default value is 5).

To make our Jelly Roll using gutters we will set one guideline down the middle of the page at 4 1/4" (I also set the left guideline at 1/2"). Our next step will be to choose the Options Menu and Set Gutters. A dialog box will come up (Figure 2) and we can set Left and Right values to 10. With this setting we will have 1/4" between our text in the middle of the page ( $[\text{left column right gutter} =] 10 + [\text{right column left gutter} =] 10 = 20 \text{ at } 80 \text{ DPI} = 1/4"$ ). I generally leave the Top and Bottom Gutters set at 5 but you can also adjust these to whatever you want. By setting the gutters before we create any text regions, all the regions we create will use these values. If you create some text regions prior to setting the gutters, they will have the default values. Of course, you can use this to your advantage and set different gutter values for individual text regions as required.

One guideline down the middle of the page also makes it easier to place our dividing line. The tutorial says to draw the vertical divider at the 4 1/2" mark (which happens to be where they said to put the right edge of the left column) but we will draw it on our Guideline at 4 1/4" (Figure 3). In Preview Mode, and with SNAP selected (under the options menu or with the C = S keyboard shortcut), choose the Line tool and draw the line from top to bottom. (This finishes off our page and the end product in both cases can be seen in the Thumbnail images in Figures 4 and 5.)

Again, I don't agree with placing this line in Master Page mode. I add my graphics touches in Page Graphics Mode because, generally, each page will require different accents. A big case in point is placing the graphic of the little house on the page. If you are using a Dot-Matrix printer for output the foreground region (text or graphics regions) will cover the dividing line and it won't get printed (dot-matrix geoPublish output is What-You-See-Is-What-You-Get). If you are using a Laser Printer for your output (which isn't that difficult and is how any serious material should be printed) your dividing line will show right through the graphic and also through the headline text (laser printer geoPublish output is What-Is-There-Is-What-You-Get). This is yet another reason to use a single guideline between columns. If you are having to draw a divider above and below a graphic it is much easier to keep them lined up if you have a guideline to draw on.

## Improving GeoPublish

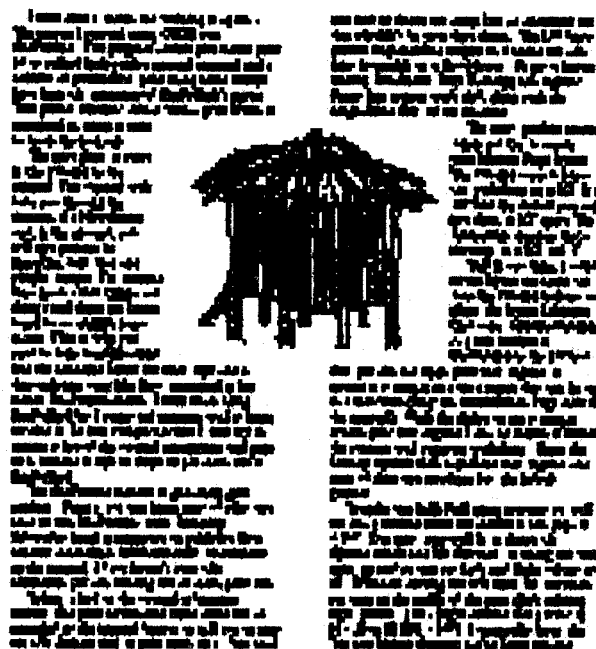


FIGURE 4 - PAGE DONE WITH NO GUTTERS

## Improving GeoPublish

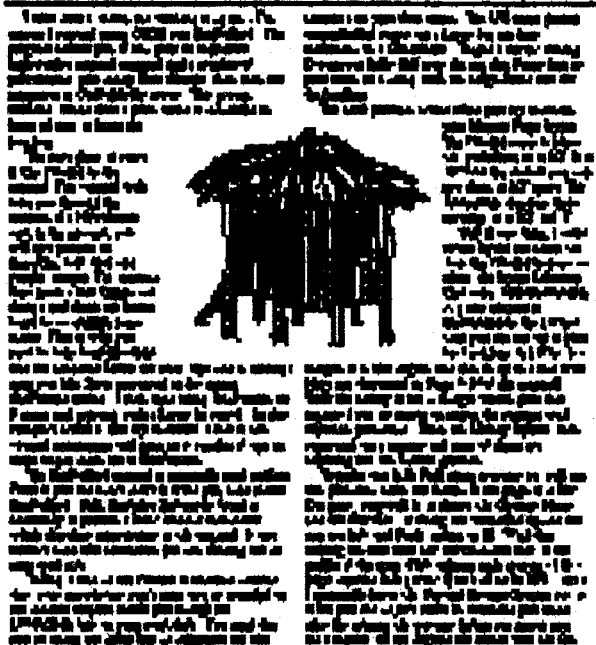


FIGURE 5 - PAGE DONE WITH GUTTERS

That takes care of the first part of this series. In the second portion we will look at an alternative method for placing graphics with text wrap-around and a few must-have programs to make geoPublishing easier.

## Guest Editorial: Comments On The Shiny New CMD Technology

By Rev. Dave Moorman. Kudos to Creative Micro Designs on the development of the 20-MHz SuperCPU accelerator for the C-64. Rumors of a 16 Megabyte "sideboard" have me "panting like a hart" at the radical possibilities. The next step undoubtedly will be a VIC III video chip that will bring .GIF graphics to my television/monitor screen. Then we, too, can surf the net like the Incredibly Big Muchachos!

The development of a downward compatible 68287 (?) - driven Commodore *should* have been CBM's project immediately following the C-128. In some ways, the rudderlessness of Commodore Business Machines actually made the C-64 the feisty little computer it has become. Consigned to the bayous of nonprofit users' groups, while CBM had "bigger fish to fry," the C-64 became one of the best charted, most completely mapped and understood architectures in the history of computers.

Somewhere, someone at CBM must have drawn a line in the sand, saying, "We will manufacture C-64's as long as we sell one million units a year." That number gave a nice economy of scale cushion, guaranteeing some no-worry pocket change. Each year, as the boys in blue blazers bent to the happy task of nixing the 64 once and for all -- the silly little machine crossed that line. In the glass and steel towers, execs told each other that they would profit via name recognition as entry level users upgraded to the shiny new Amigas. Perhaps on their salaries a move to Amiga was an upgrade. But to the millions each year who discovered computing for a few hundred bucks, the move would be more of a total retooling.

Meanwhile, the name became recognized as a company that increased its installed base by over a million households a year -- yet couldn't give a "rat's ass" about the customers themselves. Commodore 64 users became so accomplished at surviving with next to no support that when they did retool, it was to the cheapest, no-name clone they could get

their mitts on! And CBM did NOT produce the cheapest clone.

One day, the C-64 failed to cross the line in the sand. The boys in blue blazers gleefully discontinued their troublesome connection to a lowly "game machine." And within the year, CBM went belly up. Who says there is no poetry or justice in business?

On the other hand -- suppose CBM *had* designed a C-640 or C-1024 or C-4M? Suppose the bottom 64 K was a simon-pure 1 MHz C-64 with the "1590" drive recognizing 1541/1571 format. All the tons of C-64 software would work without a glitch. However, programmers would not long strap themselves to a 1 MHz/64K environment. New titles would have that little info-box down in the corner of the cover: C-640/VIC III or better required. Even stalwart providers such as LOADSTAR would give way to one, two, three programs per issue in the new architecture. Until the C-64 would be just as dead as a 286. All hidden by a false sense of "compatibility."

Instead, device and peripheral designers such as CMD had to work within the stunted world of 64K and 1541 drives. And they *did* it! For example, Image Maker (LS #106) uses heavy disk access to maximize memory. With a stock 1541, Image Maker is a real yawner as modules are switched. JiffyDOSed, and the program moves right along. Put it in RAMLink, and suddenly(!) the C-64 is acting like a C-16-Meg!

At least as exciting -- if not more so to Ye Olde Browne Boxers -- is the incredible software advances in the last year or two from the only Tower that really counts. These modules bring the power programmers need right into the native operating system.

With advanced toolboxes, sound generators, Universal Printer Driver, fully proportional mouse control, bitmap control, and improved menu structuring, we can create clean, smooth, intuitive input/output at any Megahertz with any drive or extended memory.

Therefore -- my most humble suggestion to C-64 programmers is this: Our life *is* limitation. Only a fool thinks he can buy his way out of that truth. So we need to thank whatever powers-that-be of computing that advances in our little niche have not failed to be wholly downward compatible. We, as co-creators of programming excellence, must always be aware of our unpresuming roots. Our programs need to be "upwardly advantageous."

That is to say, if we personally are taking advantage of 20-MHz and 16-Meg of RAMLink, we must always keep in mind the

ugly brown box -- and strive to make our work at least usable (if not spectacular) at that level. On a JiffyDOSless machine, the program may take two cups of coffee and a trip to the john to load, but it will work.

The above is entirely the opinion of Rev. Dave Moorman, Preacher/Programmer and Sometimes Cynic.

David Morris Moorman  
<revdave@rocky.hpdc.com>

## REU Programming & Border Removal

by Robin Harbron. This project turned out to be a real monster, but I think there are many things to be learned if you just read through this program. My main goal was to show the basics of REU (Ram Expansion Unit) programming. But since I'm given to demo coding, I couldn't help but show a couple of tricks while I was at it. But first, some explanation. Note from Jeff: I think they should be called REUOUSs. Any Princess Bride fan knows that that means RAM Expansion Units Of Unusual Size.

There are three different models of REUs: The 1700, 1764 & the 1750. They have 128K, 256K & 512K of RAM respectively. The RAM is divided into banks of 64K, although in practice you don't even notice this. The 6510 processor in the C64 can only address 64K, so extra RAM can't be added directly to the processor. Instead, a RAM Expansion Controller (REC) is available to the programmer in the second expansion IO page (\$DF00). This allows the Super Snapshot, as well as other cartridges, to co-exist with the REU.

The way an REU allows extra memory to be added to the computer is ingenious: Memory can be moved from and to (and swapped with) the computer by programming the REC. Once the REC is told the source and destination addresses in both the computer & REU, and told how many bytes to move, and which direction to move them in, you can command the REU to begin the transfer. The processor is disabled while the memory is moved at the incredible rate of a byte per cycle! This is equivalent to one megabyte per second! The only possible slow down is the VIC chip grabbing some cycles to keep displaying the screen.

Now, while researching this topic, I came upon some interesting information. Let me explain:

Every cycle, the VIC chip grabs some information to display on the screen. Now, when it reaches the bottom border, instead



of reading and displaying useful information, the VIC grabs whatever is located in the last byte of the current video bank (\$3FFF is the default). This is usually not shown on screen, as the border hides it. But try this:

Enter the command POKE 53265,24 or POKE 53265,31. Notice a little bit of garbage appearing at your top or bottom border edge?

Whatever you poke into location 16383 will now appear 40 times at the top or bottom of your screen.

Now, it just so happens that your top and bottom border can be removed rather easily. You simply wait until the raster reaches lines 248-250 (you don't have to be too precise). Then shrink the top/bottom borders by putting a 19 into location 53265. This fools the VIC into missing the start of the border. Then a few lines later, put a 27 back into 53265, and repeat this every frame. Your top/bottom border is gone!

This reveals the \$3FFF pattern over the whole screen. Now that the borders are removed, we can display information in that area, by changing \$3FFF. Unfortunately, to store information in \$3FFF takes at least 4 cycles per byte, so we could perhaps make some interesting patterns, or maybe even a very chunky bitmap, but nothing like a 1 character by 1 character text scroll.

But the REU can transfer a byte every cycle! So if we could generate the information to put in the border ahead of time, copy it to the REU, and then copy it back to the C64 at the right time, we could display just about anything we'd like. Now, we just need one more trick, and then I'll start explaining the program: You can tell the REC to fix either the C64 or the REU address, so all the information being transferred from the REU to the C64 will go to one location. You guessed the address: \$3FFF.

Enough theory, on with the example, which will be a text scroller through the bottom border. Nothing fancy, in fact we won't even smooth scroll it, as the program is plenty long without the extras.

\*= \$4000

```
status      = $df00
command     = $df01
c64base     = $df02 (16-bit)
reubase     = $df04 (24-bit)
translen    = $df07 (16-bit)
irqmask     = $df09
control     = $df0a
```

We define the start address (16384 in decimal), and the registers to be used in

the REC.

```
delay       = $fa
count       = $ff
textp       = $fb
fontp       = $fd
```

We define two counters, delay and count. They're only in zero page for speed's sake. Textp is a pointer to the scroll text we'll be displaying along the bottom. Fontp is a pointer to the font bit@map definitions. We'll be calculating this address for every character we display.

```
text        = $0400
temp        = $2000
```

Text points to where the actual text to scroll across the screen is located. The text is stored in screen code form. \$0400 is where the screen is located by default, so this routine will take its information directly from the screen. Of course, you could set this to any location you'd like. Temp is an imaginative name for the location of the temporary pseudo bitmap that will be transferred to the REU and back to the 64 for display in the border.

```
start       lda #127
            sta 56333
            lda 56333
            sei
```

Turns off CIA #1 interrupts, and then all IRQs. I found that the lda 56333 prevents some potential bugs involving interrupts. I recommend you use it, as it'll save you the grief I went through.

```
lda #<text
sta textp
lda #>text
sta textp+1
lda #1
sta $d020
sta $d021
```

Simply sets the textpointer to the beginning of the scroll text, and sets the screen border & background to white.

```
main        lda #39
            sta count
```

This is the beginning of the real work here. There are 40 columns of text we want to generate, working from the right to the left. Count keeps track of this.

```
loop2       ldy count      ;do
this loop 40 times
            lda (textp),y ;get
the next character
```

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```

ldy #0    ;multiply the
character by 8,
sty fontp+1 ;and add
it to $d000 to find
asl a      ;the
beginning of its bitmap
rol fontp+1
asl a
rol fontp+1
asl a
rol fontp+1
sta fontp
clc
lda fontp+1
adc #$d0
sta fontp+1
lda #<temp
sta self+1
lda #>temp
sta self+2

```

Set up the self-modifying code to point to the beginning of the temporary bitmap area.

```

lda 1
and #251
sta 1
ldx count
ldy #0

```

Switch in the ROMs containing the built in C64 font, and get the index registers ready for what's ahead.

loop1 lda (fontp),y ; Get a byte of the character's image

```

self      sta temp,x    ; Store
it in the temp area
clc
lda self+1
adc #65    ;increase
the temp area pointer
sta self+1 ;by 65
(there are 65 cycles per
bcc ahead2 ;raster
line on an NTSC C64)
inc self+2
ahead2    iny
cpy #8    ;do this
loop 8 times, for each
bne loop1 ;byte of
the character
lda 1
ora #4    ;switch
the ROMs out, IO back in
sta 1
dec count
bpl loop2 ;continue
the loop for all 40 chars

```

This mess of code is necessary because of the way the 64 normally handles bitmaps, and how the \$3FFF trick differs from it. Bitmaps usually have 8 bytes stacked on top of each other, then it moves back up, and to the right, and continues this down, then right, pattern. When using \$3FFF however, the bitmap is simply spread out, one byte at a time from left to right for each line. So the

character data is read in sequentially, but has to be spread out on the screen 65 bytes apart from each other. The VIC actually reads from \$3FFF every single cycle, but only 40 of them are visible, the other 25 are hidden by the left/right borders.

```

inc delay
lda delay
and #00001111
bne ahead3

```

A little trick I often use, when I want trouble free delays. Scrolling the text 60 characters per second is really steep, so this slows it down a bit.

```

inc textp ;increase
the text pointer, so the text
bne ahead3 ;will shift
next time though
inc textp+1
ahead3
ldy #39
lda (textp),y ;test to
see if the wrap character
cmp #31 ;is
found. 31 is the screen code
bne ahead1 ;for the
back arrow, which is the
lda #<text
;character I chose to use
sta textp
lda #>text ;reset
text pointer to beginning
sta textp+1 ;if back
arrow found

```

Right, now we're ready to do the actual REU transfers. We'll be sending the data from TEMP to the REU, then back at the right time.

```

ahead1    lda #0
sta temp+520

```

Clear out the last byte of the temp area, as this last byte will repeat through out the rest of the border.

```

lda #0
sta control

```

If you'd like to fix the read or write location in the 64, rather than have it count up through a range, set bit 7 of this register. Bit 6 does the same for the REU. We want both addresses to move freely, so we put a zero here.

```

lda #<temp
sta c64base
lda #>temp
sta c64base+1

```

C64base holds the starting address in the 64 for the transfer, in lo/hi byte

format. We want the area called TEMP sent to the REU.

```

lda #0
sta reubase
sta reubase+1
sta reubase+2

```

We'll store this right at address 0 in the REU. This is stored in the following order: low byte, high byte, bank number. Normally, only the low 3 bits of the bank number are valid, giving 8 banks of 64K, or 512K total.

```

lda #<521
sta translen
lda #>521
sta translen+1

```

Tell the REC how many bytes you would like to transfer. This again is stored in low/high byte order. This 16-bit limit means that "only" 64K can be transferred at a time, where 0 = 65536 bytes. 521 bytes? 65 bytes per raster line times 8 lines, plus 1 extra byte to put that zero byte at the end, so that the rest of the border is empty, rather than filled with the last byte of the text scroll.

```

lda #10010000
sta command

```

And do the move! This is a busy register, here's the breakdown:

Bit 7: Must be set to 1 to Execute the command

Bit 6: Reserved (normally 0)

Bit 5: 1 = Autoload on. When this is selected, the address and length registers are undisturbed after a transfer. If set to 0, the address length will normally be set to 1, and the address registers will be pointing to the byte after the last accessed.

Bit 4: If set to 1, the command executes as soon as the command register is written to. If set to 0, the REC waits until the program writes to location \$FF00 in the 64.

Bits 3&2: reserved, normally 0

Bits 1&0: What type of transfer?

00 = transfer C64 to REU  
 01 = transfer REU to C64  
 10 = swap C64 and REU  
 11 = compare C64 and REU

lda #10010000 executes a C64



```

to REU transfer immediately.
    lda #250
line1  cmp $d012 ;wait until
near the bottom of the screen
    bne line1
    lda #19      ;shrink the
borders, fooling the VIC into
    sta $d011 ;missing
turning on the border
    lda #253
line2  cmp $d012 ;wait for a
few more scan lines
    bne line2
    lda #27      ;expand the
borders again, to get ready
    sta $d011 ;for the
next time around
    bit $00      ;just some
inelegant delay to get the
    nop          ;display
looking right
    nop
    nop
    nop
    nop
    nop
    nop

```

Now, time to send the bitmap back from the REU to the C64, with just a few changes:

```

    lda #$10000000 ;fix
the C64 memory location
    sta control
    lda #<$3fff
;destination in the C64
    sta c64base
    lda #>$3fff
    sta c64base+1
    lda #0
;moving from location 0 in the
REU
    sta reubase
    sta reubase+1
    sta reubase+2
    lda #<521      ;still
521 bytes...
    sta translen
    lda #>521
    sta translen+1
    lda #$10010001 ;Do
the move, from REU to C64
    sta command
    jmp main      ; Do it
all again...

```

The following is the BASIC type-in program, that loads the above assembly language program into memory. Clear the screen, type in some text in the top left corner, end it all with a back arrow, SYS 16384, and see it go down at the bottom. Of course, you will need an REU to run this program.

```

10 S=16384
20 READ A: IF A=-1THEN40
30 T=T+A:POKE S,A:S=S+1:GOTO20
40 IFT<>33593THENPRINT"data
error":END
50 PRINT CHR$(147);
60 PRINT"sys16384 to start"
70 PRINT"scrolling text..."

```

```

100 DATA 169,127,141, 13,220,173, 13
110 DATA 220,120,169, 0,133,251,169
120 DATA 4,133,252,169,1,141,32
130 DATA 208,141, 33,208,169, 39,133
140 DATA 255, 164, 255, 177,
251,160,0
150 DATA 132,254,10, 38,254, 10,38
160 DATA 254, 10,38, 254, 133,
253,24
170 DATA 165,254,105,208,133,254,169
180 DATA 0,141,78, 64,169, 32,141
190 DATA 79, 64,165, 1, 41,251,133
200 DATA 1,166,255,160, 0,177,253
210 DATA 157, 0, 32, 24,173, 78, 64
220 DATA 105, 65,141, 78, 64,144, 3
230 DATA 238, 79, 64,200,192, 8,208
240 DATA 232,165, 1, 9, 4,133, 1
250 DATA 198,255, 16,176,230,250,165
260 DATA 250, 41, 15,208, 6,230,251
270 DATA 208, 2,230,252,160, 39,177
280 DATA 251,201, 31,208, 8,169, 0
290 DATA 133,251,169, 4,133,252,169
300 DATA 0,141, 8, 34,141, 10,223
310 DATA 169, 0,141, 2,223,169, 32
320 DATA 141, 3,223,169, 0,141, 4
330 DATA 223,141, 5,223,141, 6,223
340 DATA 169, 9,141, 7,223,169, 2
350 DATA 141, 8,223,169,144,141, 1
360 DATA 223,169,250,205, 18,208,208
370 DATA 251,169, 19,141, 17,208,169
380 DATA 253,205, 18,208,208,251,169
390 DATA 27,141, 17,208, 36, 0,234
400 DATA 234, 234, 234, 234, 234,
234, 169
410 DATA 128,141, 10,223,169,255,141
420 DATA 2,223,169, 63,141, 3,223
430 DATA 169, 0,141, 4,223,141, 5
440 DATA 223,141, 6,223,169, 9,141
450 DATA 7,223,169, 2,141, 8,223
460 DATA 169,145,141, 1,223, 76, 25
470 DATA 64,-1

```

## Digimaster Revisited

By Scott Eggleston. Let's face it, digital audio is just plain cool. The ability to sample and replay sounds through your computer rates a high "nifty!" in my book, and is commonplace on all mainstream platforms.

Doing this on our computers, however, has been elusive. Oh sure, we've heard sampled sounds in games such as The Three Stooges (great game), or demos, or players (as mentioned in the last issue), but how about the common man? How can the average Commodore user digitally sample audio? How about the ultimate thrill -- including sounds in your own programs?

First a little history: The ability to sample on a Commodore was discovered when someone figured out that by quickly setting the SID chip to maximum volume, and then the minimum, you'd hear a slight "pop." With the proper input, a string of these "pops" could mimic audio. Sampling was born.

Unfortunately, the first samplers (using the old .RAW format) used 4-bit playback, and really didn't sound too great. Players were available to any users, via shareware, and were on BBSs all over the country. Support tended to be limited,

however, due to few registrations, custom-made sampling hardware, and limited use.

Digimaster came out a couple of years ago, distributed through CMD. It received good reviews then, and it gets high marks now. Written by Chris Brenner, DM is simply the best sampling program we can get, and the following will explain why.

The entire package consists of a single-sided 5.25" floppy, a manual, and a manual addendum. Several programs come with DM, and can be run from any drive. Let's start with the most important one.

The Editor. If you've ever seen sampling software on another machine, it will always display the sampled sound as a graphically represented wave that can be manipulated. Digimaster does not disappoint in this area, and is the only Commodore sampling setup that allows you to do so.

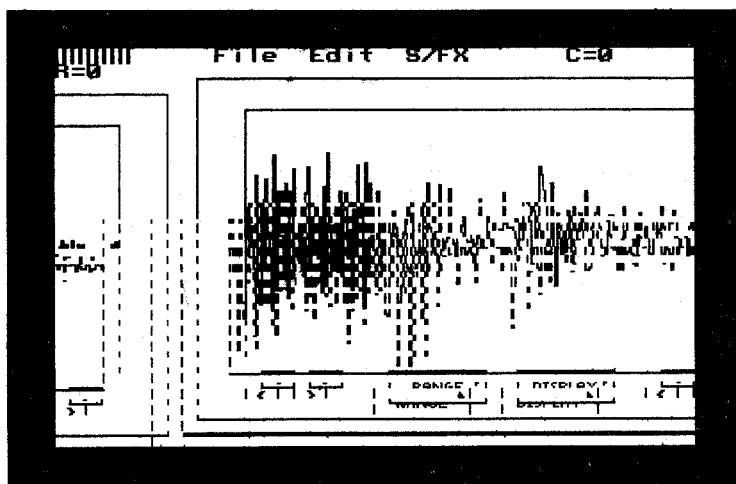
The interface is "point-and-click", and is a virtual clone of what the Amiga uses. Using a joystick or mouse, menus can be dropped from the top of the screen, and options selected, moving the pointer to an item and releasing the button to select. GEOS users may find this odd, but it works quite well.

These options (File, Edit, S/FX) are at the top of the screen, with the "scope" containing the sound wave taking up the bulk of the middle. Six buttons allowing playback and fine tuning, line the bottom of the screen. More on these later.

The editor is pretty idiot-proof. To load a file, click on "file" then move to "load", which will bring up a file requester. We've all seen these before (GEOS, any John Serafino or MR. MOUSE program on LOADSTAR), and should know how to use them by now.

Once loaded, the sound wave is displayed within the scope, and can be played by clicking on the "display" button at the bottom of the screen. To hear parts of the sample, you can highlight parts of it by clicking on the scope and dragging the highlight from left to right. Clicking on "range" (also at bottom), will only play this highlight. The four fine-tuning buttons (two for the left part of the highlight, two for the right), will adjust the range one pixel to the right or left.

Setting the range in this manner is also used for cutting, copying, and pasting. Want to cut a sample down? Set a range and cut. Want to combine samples? Set a range, cut (or copy), load a new sample, and paste. Digimaster will



SCREEN DUMP OF DIGIMASTER (SLIGHTLY MANGLED BY INTERNET)

let you perform a "paste over" (to overlap samples) or "paste insert" (to insert sample at a selected point), just like the big boys.

The "S/FX" menu is where you can sample, resample, and tweak your sound. Sampling can be performed in three resolutions: low, medium, and high. The higher the sample rate you choose, the better it sounds, albeit shorter in length than a lower sampling rate. It is also important to know that during playback, medium and high sampling rates will blank the screen. Only the low rate does not. This will mean little until you put the sample in your program. More to come on this.

The S/FX choices "resample" and "volume" can take a ranged sample and change it in one of two ways. "Volume" will make it louder or softer, and "resample" will bring it to a higher or lower rate.

Two other options in this menu are also available. "loop range" will play the range in an unending loop, while "backwards" takes the range and reverses it. I haven't found much use for the loop option, but flipping certain sounds can make for some neat effects.

There are some other programs included in the DM package as well. ConvertIFF will allow converting of IFF samples commonly used by Amigas. I don't have an Amiga, so I have no way to test it. I e-mailed Chris and suggested that a .wav converter would be a lot more useful (wavs are all over the Internet), and he said he'd look into it.

64Playit! and 128Playit! are stand-alone players written in BASIC allowing you to hear samples without having to load the editor. These are nice, but nothing rivals seeing a visual representation of a sound wave.

found in Commodore World, Issue #3. It looks complex, and should only be undertaken if you're experienced with electronics, can read a schematic, and are good with a soldering iron. This method (definitely out of my league) will cost you about \$17 in parts, and an undetermined amount of time.

You could get someone to build one, for which you'll most likely be charged for parts and labor. I found someone on the Internet who built some and was selling them for \$60 apiece. Way too pricey in my opinion.

That leaves the last, and best option: converting existing Amiga samplers. In the manual Chris gives instructions on how to build a cable which will connect between the sampler's ale DB-25 connector and the user port. Unfortunately, the mono samplers Chris recommends can be tough to locate. I couldn't find any on the net, as only stereo models are being made or used anymore.

This prompted me to call Chris (his phone was in the addendum) and ask if it were possible to use a stereo sampler, or convert one. Surprised to hear from anyone about Digimaster (no one had called him in about a year), he said it was possible if you grounded line 11, 12, or 13 from the sampler, which would make only one of the stereo inputs active. Chris recommended I look for Microdeal's Megalosound, or GVP's DSS8+. We talked about some other stuff, I thanked him, and began my search.

I then went to the usenet newsgroup cop.sys.amiga.marketplace to look for a stereo sampler. The Megalosound was the cheapest I could find used, which I got for \$30. The DSS8+ was also available used for \$40-50.

After getting my sampler in the mail, I built the cable (per manual instructions),

The Hardware Side: So how do you create your own samples? First, you're going to need an actual sampler, which attaches to your computer. There are three ways to get this goodie: build one, get someone to build one for you, or adapt an Amiga sampler.

Instructions for building your own sampler can be

then tried grounding each of the lines Chris suggested, testing the sampler each tie. On my setup, grounding line 12 was the answer, so add a 12 to the last line of the interface cable chart, so it looks like this:

Amiga	Commodore
Description	Description
DB-25	24 pin edge
12, 17-25-----A, 1, N, 12	
Ground	

**Sample Me This:** With the sampler set up, I could now import custom audio. Unlike its predecessors, Digimaster creates 8-bit samples which sound pretty darn good. The quality will depend mostly on you, but the manual is helpful with tips on how to do this.

I found that my samples tended to come out on the quiet side. By using the volume adjustment (in the S/FX menu) I could crank up the sound, fixing the problem. I also found I could get pretty good low resolution samples by resampling (also via S/FX) high resolution ones.

Probably the most attractive feature of this whole package is the ability to play samples within your own programs. All that is required is that you initialize the SID chip, load the player anywhere in memory, then call the player with a BASIC routine which SYSs to it. Routines are supplied on disk to give you examples on how to do this in both 64 and 128 mode.

If you are a LOADSTAR subscriber, I recommend you use the standard BLOAD routines we all know and love, instead of the ones included with DM. They are easier, a lot shorter (one or two lines compared to nine or ten), and just more efficient. If you have no idea what I'm talking about, check out any LOADSTAR program with an ML module.

Also note that the player reserves variables PA (player address) and SA (sound address) for its own purposes, and must be handled with care. I could only get the player to play when I made those variables equal to the respective starting addresses JUST before the player routine runs. It would not work if I made PA and SA equal to the addresses at the top of the program where the BLOADs took place.

What I ended up doing was making the starting address of the player=DM (or whatever) and the starting address of the sound=SD (or whatever). Then, when I'd

gosub to the player routine, I'd do a PA=DM:SA=SD and it worked fine.

When deciding to place these digital sounds in your program, you should be aware of a few things. Only sounds sampled in low resolution will keep the screen from blanking when played. If you value your screen as much as I do, only use this resolution. Sprites must also be turned off prior to the playing of a sample, or it will sound terrible. Knowing these things before you begin programming can save you some unwanted misery. Question from Jeff: Anyone tried playing a sample with a SuperCPU and the sprites on? How about a high res sample with the screen on and the SuperCPU?

Also, the player DOES NOT use an interrupt when playing, so nothing can happen in your program when playback occurs. Your program will run, play the sample, then resume. I've talked to Chris about a player that will let your program continue to run (which would be great for sound with animation), and says he'll give it a try if he has time.

It is also good to note that digital audio is a memory sponge. You need to allow a large slot in memory to accommodate samples. Fortunately, the editor allows you to see how big the sample really is, with a display of kilobytes used, found in the upper border of the "scope".

A final programming note concerns sample termination. To tell the player where the sample ends, you must POKE a 0 (zero) into that ending memory location. If you don't, the player will play all samples in memory, not knowing where to stop. If you only have one sample in memory, you may get a nasty, loud "pop" at the end of memory.

One way to tell where to poke the zero is to load the sample while in an ML monitor such as the one included in Super Snapshot v5. Using the proper format (l "sample",drive,startaddress), SSv5 will give you the ending address of the file, allowing you to know where to poke that handy zero. You can also just poke(175)\*256+peek(174),0 but do this immediately after Bloading the sample.

I feel Digimaster is a great product which deserves more support than it has thus far received. More programmers should look into this package, and incorporate samples into their stuff, as it will only enhance it. True, Digimaster is not cheap, but it is worth the money (if you like this kind of thing), and is unrivalled by any other product available to us. It's distributed by CMD.

## A Commodore Light Gun?

by Scott Eggleston. One gizmo that seems to have strangely eluded the Commodore world, is the lightgun. We've all seen these before, dating back to early Pong systems, continuing with Atari computers, and currently found on Sega and Nintendo home video games.

Lightguns are, of course, for gaming purists only, but like the trackball, are a must for certain games. If you've ever played the classic "Hogan's Alley", or the modern "Virtua Cop" or "Lethal Enforcer" series, you know that nothing less than virtual heat will do.

To my knowledge, no company ever built a lightgun for the Commodore platform. No author has ever written software with one in mind. These are small hurdles for a wacko user such as myself. Like the Borg, I have found a lightgun made for another purpose, and have assimilated it.

The gun I speak of is one of several models. The Atari lightgun built for their XE computer/game system, should work with your Commodore with no problems. It plugs right into the joystick port, and like most stuff that fits into the Atari joystick port, is cross-compatible with a Commodore. Unfortunately, this computer flopped with the public, making them rare, and the lightguns rarer. As a result, I have never seen one, let alone tested one on my machine.

Nintendo had one packaged with their extremely popular NES system of the late eighties. It has, however, an incompatible connector, and I could not find instructions anywhere on the 'net about a conversion. Too bad, since these are probably the easiest guns to locate.

Your best chance to find a lightgun is to locate the model which came with the Sega Master System. This game system was Nintendo's competition, and was heavily overshadowed by the NES. Many systems still sold, however. I recently found one of these guns in a thrift store for a mere \$2.

The Sega "Light Phaser" (as it is labeled) is a sleek, futuristic animal, black in color and looking as though Han Solo might have used it to fry Greedo. It is not directly compatible with the Commodore, but is easily modified. It too has a 9-pin plug which looks familiar to us Commodorephiles.

I found instructions for this mod in the Atari FAQ file, found on the Internet.

The FAQ compiler gives credit to the August 1988 issue of Antic magazine article "First Look: Inside the XE Game System" by Matthew Ratcliff. Wherever you are Matthew, I thank you as well.

Anyway, first cut off the connector on the light gun and separate the four wires, stripping the ends. Following the chart below, solder the proper ends to a female DB-9 connector. Note: since most (if not all) joystick connectors do not use all of the following lines, I recommend you use one from a discarded mouse or trackball. Remember, common DB-9 connectors have "ears" which will interfere with the close-quarters casing of Commodore machines.

SEGA Gun	Commodore
Joystick Port	
Blue Wire-----	Pin 1, JOYA0
Gray Wire-----	Pin 6,
BUTTON	
Green Wire-----	Pin 7, +5V
Black Wire-----	Pin 8, GND

You must also make an extra step which Matthew doesn't mention. This requires the disassembly of the gun which is easily done by unscrewing the 5 visible screws, and the hidden one underneath the label, just to the left of the 'S' in 'SEGA'. All screws are on the left of the gun when pointing it away from you.

Next, remove the small circuit board and trace the two red wires coming from the trigger switch. One ends up in the board down a hole marked "GND," while the other escapes down another marked "SW." Desolder the SW wire, and resolder it to the gray wire, either putting it into the same hole on the board, or attaching it underneath the board where the gray wire end pokes through.

Now you are set. Reassemble everything and plug it into joystick port one.

It is important to note that despite its name, the lightgun does not emit any light at the computer screen. Instead, the screen must be programmed to flash (white works well), and the gun will "see" it. By examining two memory locations, you can get the X and Y coordinates of where the gun was pointed at the tie of the flash.

As I have mentioned, no software has ever been written to utilize this cool device, so you stalwarts out there will have to do the work yourself. I have experimented with the gadget, and the following are some of my findings.

The two memory locations which must be examined by your lightgun driver are 53267 and 53268. These are the same

locations used when programming a lightpen, and they work here as well. After the screen flash (activated when the trigger is pulled), take a PEEK at these locations and you'll get horizontal (53267) and vertical (53268) positioning for your "shot".

According to the excellent "Mapping the 64" by Sheldon Leemon (page 140), the horizontal number will be between 0-160. Since the screen is 320 pixels across, multiply this number by 2. Vertically, there are only 200 visible scan lines, so you should get the exact spot you are pointing to.

Oddly, I would get numbers back that seemed off, as they would even exceed 255. Strange, considering we're working with an 8-bit machine. A simple mathematical adjustment of the original result seemed to fix the problem. Feel free to tweak and test until you get the proper feedback from the gun.

Another quirk with the gun is the trigger. Pulling it followed by a quick release is the only way it will register. If you hold it down, the computer will not respond properly.

Now that you have a Commodore-compatible lightgun--what next? Well, that largely depends on you. There are a lot of gaming possibilities, and some conversions come to mind (LOADSTAR's "Shootout at Fort Apache" screams for it), but you'll have to make the mod yourself. The small bunch that makes this mod should take the responsibility to do something cool with it. I plan to — someday.

## Letters To The Editor

Dear Jeff,

I would like to send the article about the history of CBM to our newsletter editor and suggest he use it in the July issue. It seems there must be some way to convert the LOADSTAR text files to The Write Stuff.

I think I have seen explanations of how to do it, but couldn't find any in issue #155. I understand that particular article is in the public domain. Is that right?

I understand it is packed text, I would like to know how to get it unpacked and into a file type that can be used by TWS with its file converter feature. Thanks for any help you can give.

Jean Nance

**Jeff:** The easiest way to convert

LOADSTAR files to EDSTAR files is with STAR LOADER. It will automatically load and display a packed text file. Press S and it will save the file as a t.file in PetASCII format.

If you don't have STAR LOADER, but you have a machine language monitor you're accustomed to, you can load the packed text file with LOADSTAR's presenter or LOADSTAR READER, on every issue, and then BSAVE it with the monitor. The unpacked file should start somewhere around \$4200 in the presenter and \$2000 with LOADSTAR Reader.

Converting LOADSTAR unpacked text into TWS is a multi-stage process. I believe I covered it in a recent LOADSTAR LETTER, but I can quickly summarize it here:

If you're using TWS128 the process is automated. Just list the directory with CTRL-4 and CRSR to the t.file with the CRSR key. Now just press RETURN on the file and it's LOAded. When asked whether PetASCII, Screen Code or True ASCII, press "P" for PetASCII. When asked to Strip extra Carriage Returns, answer "Yes." You're done!

For TWS-64 users, it's a bit more involved.

- 1: BOOT UP TWS AND PRESS COMMODORE-A TO GO TO ASCII MODE
- 2: LOAD THE T.FILE. IT SHOULD LOOK LIKE GARBAGE
- 3: PRESS COMMODORE-A TO CONVERT FILE TO SCREEN CODE. IT SHOULD LOOK READABLE NOW
- 4: PRESS COMMODORE-S FOR SEARCH AND REPLACE
- 5: CHANGE ALL DOUBLE BACKARROWS TO %%
- 6: MOVE BACK TO THE TOP AND CHANGE ALL BACKARROWS FOLLOWED BY A SPACE TO &&
- 7: MOVE TO THE TOP AND CHANGE ALL REMAINING BACKARROWS TO SPACES
- 8: MOVE TO THE TOP AND CHANGE ALL %%%s TO DOUBLE BACKARROWS
- 9: MOVE TO THE TOP AND CHANGE ALL &&s TO BACKARROWS FOLLOWED BY A SPACE.

The file should be in perfect shape now.

Dear Jeff,

On April 4, 1997, I received one of America On-Line's 50 free hours disks. This was during the same week when they were being taken to task for not resolving

the access problems quickly enough and for providing inadequate compensation to users who had problems with them. But then, old Q-Linkers know what kind of people we're dealing with at AOL. Anyway, I got a free 3.5" disk for my PC.

Dick Estel

**Jeff:** Harumph! I have heard from a lot of my PC friends that AOL is a steady source of fresh high density disks. All you FD-2000 users out there might want to try and get on AOL's mailing list. It'll probably mean ten HD disks in 1997-1998 — a \$10.00 value! Over your lifetime, it could mean hundreds of disks. Frankly, I'm on all the lists and I probably get around 20 disks per year.

Dear Jeff,

Being a subscriber to your LOADSTAR Letter (since the demise of the "underground"), also a subscriber to your 128 quarterly disk, maybe you could ask around your offices about the "Dialogue" software that was written and copyrighted by Gary Farramer). Most internetters use this if they are 128 users. I bought the version V2.2 some years ago, and it has one bad flaw that none of the Internet users on comp.sys.cbm know the answer to, yet they admit it exists.

When downloading text to the capture buffer, it double spaces lines, and that is a real pain in that the extra linefeeds have to be hand edited out. In a 700 line text that's a real headache so I have always used the "screen grab" feature instead. I just grab the screens to the buffer one by one as they come in, then all I have to do is edit out 2 lines for each "grab" in the buffer. Not quite as tedious, but why was this obvious a bug never rectified by Gary?

Does anyone know where Gary can be reached?

- \* Joseph F. Fenn (AKA kilroy) \*
- \* KH6JF licensed ham since '37 \*
- \* Army Mars(AARS) since '40 \*

**Jeff:** Sorry, but I don't know a thing about Dialogue except that Doug Cotton swore by it a couple of years ago. The double spaced lines shouldn't be too much of a pain if you're a TWS owner. Since it allows you to search and replace control characters, you can fix up a download in a few seconds. It could also be that what you're actually getting is a carriage return followed by a line feed, commonly called EOLN in PC circles.

It's also common even to Commodore BBSs. The C-64 treats the line feed, chr\$(10), like a carriage return and line feed. Same for the carriage return, chr\$(13). Just a thought.

Dear Jeff,

I found your page about Commodore 64 and 128 software, and I love it, but I have one major question. How can I get the software from my PC to my Commodore? Is there some special hardware that I need? How can I get it?

Thanks a lot  
Jim McBride

**Jeff:** You'll need Lil Red Reader 128, available from the Internet or Star Extra #1. On the same issue there's a C-64 mode program that reads MS-DOS disks. You'll also need a 1571/81 or FD series drive. To my knowledge the 1541 can't be used to read MS-DOS disks. Big Blue Reader is the commercial source for PC<>C-64 file transfer, but frankly I prefer Lil Red Reader.

Some people use null modem or simply upload the files with their PC and download with their Commodore. There is also a cable you can build called the X1541. Some people have publicly expressed some difficulty in building the cable. What follows is extracted from the Emulator FAQ.

x1541 (1.0)

Platform: IBM

Leopoldo Ghielmetti (Author)

Leopoldo.Ghielmetti@epfl.ch (Internet Contact)

ftp://ccnga.uwaterloo.ca/pub/cbm/  
(WWW URL)

This father of all transfer programs first made use of the cable now referred to as the X1541 cable. This new version of X1541 is actually two pieces. A I1541 driver that talks to the U1541 user program.

Although the U1541 program is lacking, anyone can write to the I1541 driver. To read CBM disks on an IBM, you can use this program

This program uses the PC parallel port to emulate a C= serial port. You need to have a unique cable built to make the connection. The cable is connected to a 1541 drive. The documentation has a schematic for the cable.

If you would rather not build the X1541 cable, the following individual offers them for a nominal cost:

Paul MacArthur  
attn: X1541 Cable Offer

24 Central Street  
Braintree, MA 02184

You can buy a similar cable along with the C-64S Emulator for \$50.50 From Seattle Lab. The cable can't be purchased separately.

Seattle Lab  
9606 NE 180th Street  
Bothell, Washington 98011  
(425) 402-6003 (8am-5pm Pacific  
Standard Time)  
FAX (425) 486-2766



## Things That Can Be Learned From Children:

Emailed by Dean Esmay. Source not specified. I got a ton of hilarious junk e-mail this month. What follows is only a taste of it. Keep it coming.

- There is no such thing as child-proofing your house
- If you spray hair spray on dust bunnies and run over them with roller blades, they can ignite.
- A 4 years old's voice is louder than 200 adults in a crowded restaurant
- If you hook a dog leash over a ceiling fan, the motor is not strong enough to rotate a 42-pound boy wearing pound puppy underwear and a superman cape
- It is strong enough, however, to spread paint on all four walls of a 20 by 20 foot room
- Baseballs make marks on ceilings
- You should not throw baseballs up when the ceiling fan is on
- When using the ceiling fan as a bat, you have to throw the ball up a few times before you get a hit
- A ceiling fan can hit a baseball a long way.
- The glass in windows (even double pane) doesn't stop a baseball hit by a

ceiling fan

- When you hear the toilet flush and the words 'Uh-oh,' it's already too late
- Brake fluid mixed with Clorox makes smoke, and lots of it
- A six-year old can start a fire with a flint rock, even though a 36-year old man says they can only do it in the movies
- A magnifying glass can start a fire even on an overcast day
- If you use a waterbed as home plate while wearing baseball shoes, it does not leak -- it explodes
- A king size waterbed holds enough water to fill a 2000 sq foot house 4 inches deep
- Legos will pass through the digestive tract of a four year old. Duplos will not
- 'Play Dough' and 'microwave' should never be used in the same sentence
- SuperGlue is forever
- McGyver can teach us many things we don't want to know
- Ditto Tarzan
- No matter how much Jell-O you put in a swimming pool, you still can't walk on water
- Pool filters do not like Jell-O
- VCRs do not eject PB&J sandwiches, even though TV commercials show they do
- Garbage bags do not make good parachutes
- Marbles in gas tanks make lots of noise when driving
- You probably do not want to know what that odor is
- Always look in the oven before you turn it on
- Plastic toys do not like ovens
- The fire department in San Diego has at least a 5 minute response time
- The spin cycle on the washing machine does not make earth worms dizzy
- It will, however, make cats dizzy
- Cats throw up twice their body weight when dizzy
- Quiet does not necessarily mean 'don't worry'
- A good sense of humor will get you through most problems in life
- (unfortunately, mostly in retrospect)

## Redneck Compu-Glossary

"Hard drive" -- Trying to climb a steep, muddy hill with 3 flat tires and pulling a trailer load of fertilizer.

"Keyboard" ---- Place to hang your truck keys.

"Window" ----- Place in the truck to hang your guns.

"Floppy" ----- When you run out of Polygrip.

"Modem" ----- How you got rid of your dandelions.

"ROM" ----- Delicious when you mix it with coca cola.

"Byte" ----- First word in a kiss-off phrase.

"Reboot" ----- What you do when the first pair gets covered with barnyard stuff.

"Network" ----- Activity meant to provide bait for your trot line.

"Mouse" ----- Fuzzy, soft thing you stuff in your beer bottle in order to get a free case.

"LAN" ----- To borrow

as in, "Hey Delbert! LAN me yore truck."

"Cursor" ----- What some guys do when they are mad at their wife and/or girlfriend.

"Bit" ----- A wager as in, "I bit you can't spit that watermelon seed across the porch longways."

"Digital control" -- What yore fingers do on the TV remote.

"Packet" ----- What you do to a suitcase or Wal-Mart bag before a trip.

Preacher/Programmer and Soon Moving Pastor

David Morris Moorman

<revdave@rocky.hpdc.com>

## Cat Mechanics

On the back page of LOADSTAR Letter 43 is a question about cats and toast. The compleat question and the answer are as follows:

If toast always lands butter-side down, and cats always land on their feet, what happens if you strap toast on the back of a cat and drop it?

ANSWER: The cat will twist in the harness such that the toast is under

its feet, butter-side down when it lands, and will walk around the house tracking butter over everything that will stain.

OR: Logically, the cat will eat the toast on the way down, land on its feet, then go and barf up the toast in some location where you can't see it until you step in it, to get even with you for dropping it in the first place.

Dick Estel

## Alcohol Is Good!

While most companies refrain from allowing consumption of alcohol on the premises, there are some arguments for changing that policy.

Reasons for allowing drinking at work include:

1. It's an incentive to show up.
2. It reduces stress.
3. It leads to more honest communications.
4. It reduces complaints about low pay.
5. It cuts down on time off because you can work with a hangover.
6. Employees tell management

what they think, not what management wants to hear.

7. It helps save on heating costs in the winter.

8. It encourages carpooling.

9. Increases job satisfaction because if you have a bad job you don't care.

10. It eliminates vacations because people would rather come to work.

11. It makes fellow employees look better.

12. It makes the cafeteria food taste better.

13. Bosses are more likely to hand out raises when they are wasted.

14. Salary negotiations are a lot more profitable.

15. Suddenly, farting during a meeting isn't so embarrassing.

16. No one will remember your strip act at the Christmas Party.

Dean Esmay,  
[esmay@syndicomm.com](mailto:esmay@syndicomm.com)  
(313) 359-1704

Syndicomm Inc. Online

# LOADSTAR LETTER #45

606 Common Street, Shreveport LA 71101

- **Commodore News**
- **Commodore Views**
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